

DRY BIOCHEMICAL ASSAY PLATE AND METHOD FOR MAKING THE SAME

ABSTRACT

An assay plate for detecting the presence of a mobile reactant that binds to a
5 immobilized reactant and the methods of making and using the same. An assay plate
according to the present invention includes a substrate and at least one dried aliquot of the
immobilized reactant, the immobilized reactant being bound to the surface of the substrate.
The immobilized reactant binds the mobile reactant when a solution containing the mobile
reactant is brought into contact with the immobilized reactant. The mobile and immobilized
10 reactants may be any pair of biological compounds that have a specific affinity for one another.
For example the reactants may be nucleic acids or antibody-antigen pairs. The preferred
embodiment of an assay plate according to the present invention includes a plurality of assay
spots, each spot having a different immobilized reactant or concentration thereof. The
preferred method for fabricating an assay plate according to the present invention includes the
15 steps of binding the immobilized reactant to the substrate, washing the substrate to remove
any immobilized reactant that is not bound to the substrate and then drying the substrate. The
dried assay plates are preferably stored in a water-proof container until used. An assay
utilizing an assay plate according to the present invention is carried out by bringing a solution
containing the mobile reactant into contact with the dried aliquot or aliquots on the assay
20 plate. The assay plate is then washed to removed unbound material and the amount of mobile
reactant bound to the washed assay plate determined. In the preferred embodiment of the
present invention, the washed assay plate is dried prior to measuring the amount of mobile
reactant bound to the washed assay plate.